CLAIM AMENDMENTS

Please amend Claims 1 and 27 to read as follows:

1. (Currently Amended) A fixed abrasive tool, comprising:

a) a substrate which is planar; and

b) a polishing layer ~~attached to the substrate, said polishing layer~~ having an organic matrix with nanodiamond particles therein and being a continuous layer, attached to the substrate at an organic matrix interface, said polishing layer including a plurality of projections spaced apart at a projection loading ratio of from about 0.05 to about 0.5.

2. (Canceled)

3. (Canceled)

4. (Previously Presented) The fixed abrasive tool of claim 1, wherein the projections are selected from the group consisting of conical, frustoconical, pyramidal, frustopyramidal, cubic, parallelepiped, rectangular, cross, cylindrical, column, ridge, and combinations thereof.

5. (Previously Presented) The fixed abrasive tool of claim 1, wherein the projections are formed such that the fixed abrasive tool has a loading ratio of from about 0.1 to about 0.3.

6. (Original) The fixed abrasive tool of claim 1, wherein the nanodiamond particles have a particle size from about 1 nm to about 50 nm.

7. (Original) The fixed abrasive tool of claim 6, wherein the nanodiamond particles have a particle size from about 2 nm to about 10 nm.

8. (Original) The fixed abrasive tool of claim 1, wherein the nanodiamond particles include a carbonaceous coating.

9. (Original) The fixed abrasive tool of claim 1, wherein the nanodiamond particles have a Moh's hardness greater than about 9.5.

10. (Original) The fixed abrasive tool of claim 1, wherein the nanodiamond particles are synthesized by an explosion synthesis process.

11. (Original) The fixed abrasive tool of claim 1, wherein the organic matrix comprises a member selected from the group consisting of epoxy, polyimide, polyethylene terephthalate, polytetrafluoroethylene, polyurethane, polycarbonate, polyester, and mixtures thereof.

12. (Original) The fixed abrasive tool of claim 1, wherein the substrate comprises a member selected from the group consisting of metals, polymers, and composites or alloys thereof.

13. (Original) The fixed abrasive tool of claim 1, wherein the fixed abrasive tool is configured as a CMP polishing pad.

14.-26. (Canceled)

27. (Currently Amended) A method of removing material from a workpiece, comprising the steps of:

a) providing a fixed abrasive polishing pad including a planar substrate and a polishing layer ~~thereon~~ having an organic matrix with nanodiamond particles therein and being a continuous layer attached to the substrate at an organic matrix interface, said polishing layer including a plurality of projections spaced apart at a projection loading ratio of from about 0.05 to about 0.5;

b) providing a workpiece to be treated; and

c) polishing a surface of the workpiece with the fixed abrasive polishing pad to produce a polished surface.

28. (Canceled)

29. (Canceled)

30. (Previously Presented) The method of claim 27, wherein the projections are selected from the group consisting of conical, frustoconical, pyramidal, frustopyramidal, cubic, parallelepiped, rectangular, cross, cylindrical, column, ridge, and combinations thereof.

31. (Previously Presented) The method of claim 27, wherein the projections are formed such that the fixed abrasive tool has a loading ratio of from about 0.1 to about 0.3.

32. (Original) The method of claim 27, wherein the step of polishing includes applying pressure at from about 1 psi to about 100 psi.

33. (Original) The method of claim 27, wherein the step of polishing removes the material from the surface at a rate from about 10 Å/min to about 1000 Å/min.

34. (Original) The method of claim 27, further comprising introducing a polishing liquid to the surface during the step of polishing, said polishing liquid being a moderate solvent for the organic matrix.

35. (Original) The method of claim 34, wherein said polishing liquid is substantially free of abrasive particles upon introduction to the surface.

36. (Original) The method of claim 34, wherein said polishing liquid dissolves the matrix at points of contact at a rate from about 1 Å/min to about 100 Å/min.

37. (Original) The method of claim 27, wherein the polished surface has a surface roughness (Ra) less than about 1 nm.

38. (Original) The method of claim 37, wherein the polished surface has an Ra from about 2 Å to about 10 Å.

39. (Original) The method of claim 27, wherein the substrate comprises a member selected from the group consisting of metals, polymers, and composites or alloys thereof.

40. (Original) The method of claim 39, wherein the workpiece is a member selected from the group consisting of silicon wafers, integrated circuitry, gemstones, and hard drive platters.

41. (Original) The method of claim 27, wherein the fixed abrasive tool is configured as a CMP polishing pad.

42. (Previously presented) The tool of claim 1, wherein the polishing layer further comprises a filler material.

43. (Previously presented) The tool of claim 1, wherein the polishing layer has a nanodiamond concentration of from about 5 vol% to about 60 vol%.

44. (Previously presented) The tool of claim 43, wherein the polishing layer has a nanodiamond concentration of from about 10 vol% to about 30 vol%.

45. (Previously presented) The tool of claim 1, wherein the polishing layer further includes an intermediate material which forms chemical bonds between the nanodiamond particles and the organic matrix.

46. (Previously presented) The tool of claim 1, further comprising a filler material having a Moh's hardness less than 6.

47. (Previously presented) The tool of claim 1, wherein the polishing layer is substantially free of abrasive particles having a Moh's hardness greater than about 6, exclusive of the nanodiamond particles.

48. (Previously presented) The tool of claim 1, wherein the organic matrix further includes an organic binder and a softening agent.